

WE CLAIM:

1. A valve for a fuel delivery system, comprising:

an input in communication with a fuel pump and a fuel rail, wherein
said fuel rail supplies fuel to an engine, said input being at one of an operating
5 pressure, a first residual pressure, and a second residual pressure, said first
residual pressure being above said second residual pressure;

a first sealing member and a first seat, said first sealing member and
said first seat abutting at said operating pressure and said first sealing
member and said first seat being unsealed at said first and second residual
10 pressures;

a second sealing member and a second seat, said second sealing
member and said second seat abutting at said first residual pressure and said
second sealing member and said second seat being unsealed at said second
residual pressure; and

15 wherein said first sealing member and said first seat are in
communication with said second sealing member and said second seat, said
abutting of said first sealing member and said first seat preventing flow
through said second sealing member and said second seat.

20 2. The valve according to claim 1, wherein said first sealing
member, said first seat, said second sealing member and said second seat
are disposed within a fuel tank.

25 3. The valve according to claim 1, in combination with a parallel
pressure relief valve, wherein said first sealing member, said first seat, said
second sealing member and said second seat are integrated into said parallel
pressure relief valve, thereby forming a single valve assembly.

30 4. The valve according to claim 1, in combination with a fuel line in
communication with said fuel rail, said fuel line terminating at a bottom of a
fuel tank, wherein said fuel rail retrieves fuel from said fuel tank through said

fuel line when fuel in said fuel rail is at a pressure below said second fuel pressure.

5 5. The valve according to claim 1, in combination with a fuel line in communication with said fuel rail, said fuel line terminating above a bottom of a fuel tank, wherein said fuel rail retrieves fuel vapor from said fuel tank through said fuel line when fuel in said fuel rail is at a pressure below said second fuel pressure.

10 6. The valve according to claim 1, further comprising a first spring; wherein said first spring biases said first sealing member away from said first seat, said first seat is disposed away from said input, and said first sealing member is disposed between said input and said first seat.

15 7. The valve according to claim 1, further comprising a second spring; wherein said second spring biases said second sealing member against said second seat, said second seat is disposed away from an output, and said second sealing member is disposed between said output and said second seat.

20 8. The valve according to claim 1, further comprising a first spring; wherein said first spring biases said first sealing member away from said first seat, said first seat is disposed away from said input, and said first sealing member is disposed between said input and said first seat; further comprising
25 a second spring; wherein said second spring biases said second sealing member against said second seat, said second seat is disposed away from an output, and said second sealing member is disposed between said output and said second seat.

30 9. The valve according to claim 1, wherein said first sealing member and said second sealing member are joined.

10. The valve according to claim 1, wherein said first sealing member and said second sealing member are joined; further comprising a spring disposed between said joined first and second sealing members and an output; and wherein said first seat is disposed between said joined first and second sealing members and said output, and said second seat is disposed between said joined first and second sealing members and said input.

11. The valve according to claim 10, wherein said first sealing member, said first seat, said second sealing member and said second seat are disposed within a fuel tank.

12. The valve according to claim 11, in combination with a fuel line in communication with said fuel rail, said fuel line terminating at a bottom of a fuel tank, wherein said fuel rail retrieves fuel from said fuel tank through said fuel line when fuel in said fuel rail is at a pressure below said second fuel pressure.

13. The valve according to claim 12, in combination with a parallel pressure relief valve, wherein said first sealing member, said first seat, said second sealing member and said second seat are integrated into said parallel pressure relief valve, thereby forming a single valve assembly.

14. The valve according to claim 10, in combination with a parallel pressure relief valve, wherein said first sealing member, said first seat, said second sealing member and said second seat are integrated into said parallel pressure relief valve, thereby forming a single valve assembly.

15. The valve according to claim 1, wherein said first sealing member and said second sealing member are joined and wherein said first seat and said second seat are joined; further comprising a spring disposed between said joined first and second sealing members and an output; and

wherein said joined first and second seats are disposed between said first sealing member and said second sealing member.

5 16. The valve according to claim 15, wherein said first sealing member, said first seat, said second sealing member and said second seat are disposed within a fuel tank.

10 17. The valve according to claim 16, in combination with a fuel line in communication with said fuel rail, said fuel line terminating at a bottom of a fuel tank, wherein said fuel rail retrieves fuel from said fuel tank through said fuel line when fuel in said fuel rail is at a pressure below said second fuel pressure.

15 18. The valve according to claim 17, in combination with a parallel pressure relief valve, wherein said first sealing member, said first seat, said second sealing member and said second seat are integrated into said parallel pressure relief valve, thereby forming a single valve assembly.

20 19. The valve according to claim 15, in combination with a parallel pressure relief valve, wherein said first sealing member, said first seat, said second sealing member and said second seat are integrated into said parallel pressure relief valve, thereby forming a single valve assembly.

25 20. The valve according to claim 1, wherein said first sealing member is a vane.

30 21. A fuel delivery system for an engine, comprising:
a fuel tank containing a volume of fuel;
a fuel pump in fluid communication with said fuel tank pressurizing said fuel;
a fuel rail in fluid communication with said fuel pump receiving said pressurized fuel;

an injector in fluid communication with said fuel rail supplying said pressurized fuel to said engine;

a first valve in fluid communication with said fuel rail maintaining said fuel in a pressurized state; and

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a second valve in fluid communication with said fuel rail relieving said pressurized state of said fuel when said engine is not operating.

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22. The fuel delivery system according to claim 21, wherein said second valve relieves said pressurized state of said fuel in response to thermal expansion.